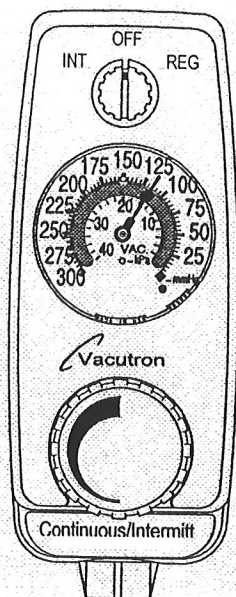


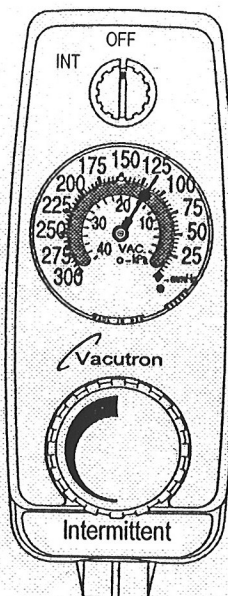
VACUTRON® SUCTION REGULATORS

Vacuum Regulators for Continuous or Intermittent Drainage

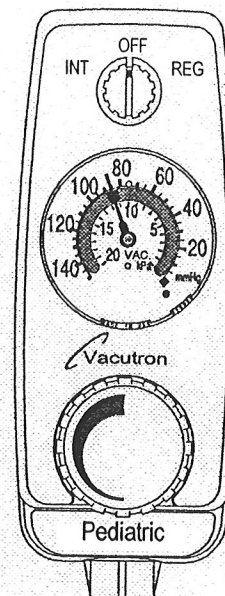
OPERATION AND MAINTENANCE MANUAL



CONTINUOUS-INTERMITTENT
MODEL



INTERMITTENT
MODEL



PEDIATRIC CONTINUOUS-INTERMITTENT
MODEL

THIS OPERATION AND MAINTENANCE MANUAL APPLIES TO THE
CONTINUOUS-INTERMITTENT, INTERMITTENT, AND PEDIATRIC
CONTINUOUS-INTERMITTENT MODELS



CAUTION

FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY
OR ON THE ORDER OF A PHYSICIAN.



WARNING

READ THE ENTIRE MANUAL PRIOR TO USE, MAINTENANCE OR REPAIR

Allied
HEALTHCARE PRODUCTS INC.
S168-319-001
Rev. K

SYMBOL DEFINITION:



READ



**DECREASE (COUNTER CLOCKWISE)
INCREASE (CLOCKWISE)**

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**WARNING****REFER ALL SERVICE, REPAIR AND MAINTENANCE TO QUALIFIED PERSONNEL****1.0 General Information:****1.1 Description:**

Allied Healthcare Products, Inc. offers three models of intermittent suction regulators in both ISO and USA versions. All models allow the user to control the delivered vacuum levels, and can be flushed with isopropyl alcohol.

The INTERMITTENT model functions as an intermittent suction regulator while the CONTINUOUS-INTERMITTENT and PEDIATRIC CONTINUOUS-INTERMITTENT models can be selected to operate in either a continuous or intermittent suction mode. All models are made with impact resistant housings and internal components, and can be purchased with a wide variety of patient and source connections.

The Chemetron® Vacutron® suction regulator product line provides the proven suction and drainage performance that has made Allied Healthcare Products an industry leader.

This Vacutron® suction regulator series is designed for patient care where controlled, accurate drainage is required. Patient circuit is relieved to atmospheric pressure during the off cycle of the intermittent mode.

1.2 Standard Features Include:

- Controlled vacuum level in the REG (continuous) and INT (intermittent) modes
- Vacuum limiting relief valves for the continuous and intermittent modes
- Independent variable ON and OFF vacuum cycles in the "INTERMITTENT" mode
- Quiet operation
- Impact resistant housing
- Can be flushed with isopropyl alcohol
- Minimum maintenance
- Wide variety of patient and source connections available
- Color coded vacuum gauge
- Field adjustable timing

1.3 User Responsibilities:

- Unit to be set up and operated by properly trained personnel only.
- Install, operate and maintain the unit as instructed in this manual.
- Never use a defective unit, under any circumstances.
- Follow repairs and/or replacement as instructed in this manual.
- Decontaminate unit prior to returning to the factory. Contaminated units returned for service will be discarded as hazardous waste. Federal Law prohibits the shipping of unmarked hazardous materials.

This unit or any of its parts should not be repaired or replaced other than in accordance with written instructions from Allied Healthcare Products, Inc.'s Repair Department. No alteration or modification is permitted without specific written instructions from Allied Healthcare Products. The user of this unit shall bear the sole responsibilities for any malfunction and/or harm that result from improper use, faulty maintenance, improper repair, damage or unauthorized alteration.

2.0 Specifications (General):

FEATURE	MODE	PEDIATRIC CONT/INT	INTERMITTENT	CONT/INTER
Selector Switch Modes Available	Continuous	Yes	No	Yes
	Intermittent	Yes	Yes	Yes
	Off	Yes	Yes	Yes
Regulated Vacuum Range	Intermittent	0-110 mm Hg ± 10 0-14.7 kPa ± 1.3	0-150 mm Hg ± 10 0-20 kPa ± 1.3	0-150 mm Hg ± 10 0-20 kPa ± 1.3
	Continuous	0-130 mm Hg ± 10 0-17.3 kPa ± 1.3	N/A *	0-320 mm Hg ± 20 0-42.5 kPa ± 2.7
	Cont. (Special Model)			0-320 mm ± 20 0-42.5 kPa ± 2.7
	10 Year Warranty			
Maximum Flow Regulator only (nominal)	Intermittent	2.5 LPM	7-9 LPM **	7-9 LPM **
	Continuous	40 LPM	N/A *	65 LPM
Safety Relief Valves	Intermittent	110 mm Hg ± 10	150 mm Hg ± 10	150 mm Hg ± 20
	Continuous	0-14.7 kPa ± 1.3	0-20 kPa ± 1.3	20 kPa ± 2.7
	Continuous	130 mm Hg ± 10 0-17.3 kPa ± 1.3	N/A *	310 mm Hg ± 20 41.3 kPa ± 2.7
	Cont. (Special Model)			310 mm Hg ± 20 41.3 kPa ± 2.7
Source Vacuum Range	12 to 30 in Hg (305 to 762 mm Hg) (40.6 to 101.3 kPa) Unit calibrated at 18 in Hg Vacuum Source			
Vacuum Gauge				
Range	0 to 150 mm Hg (Increments of 5 mm Hg) 0 to 20 kPa (Increments of 2 kPa)		0 to 300 mm Hg (Increments of 5 mm Hg) 0 to 40 kPa (Increments of 2 kPa)	
Size Type	2 Inch Diameter Gauge Face Diaphragm		2 Inch Diameter Gauge Face Diaphragm	
Materials of Construction	Case High Impact Polycarbonate Knobs Soft Thermoplastic Rubber Outer Shell Molded on a Thermoplastic Body Internal Parts Polycarbonate, Acetal Resin, Silicon, and Fluorocarbon Rubber Metal Parts Brass, Stainless Steel and Plated Steel			
Operating Temperature	50°F to 90°F (10°C to 32°C)			
Operating Humidity	35% to 96% Relative Humidity (RH) Non-condensing			
Intermittent OFF Time	Factory set to 7-12 seconds at 18 in Hg Vacuum Source			
Intermittent ON Time	Factory set to 15-20 seconds at 18 in Hg Vacuum Source			
Int. OFF Time Range	5-30 seconds (field adjustable) at 18 in Hg Vacuum Source			
Int. ON Time Range	5-30 seconds (field adjustable) at 18 in Hg Vacuum Source			
Overall Dimensions	6.8 Inches (174 mm) High x 2.7 Inches (67 mm) Wide x 6.0 Inches (152 mm) Deep			
Weight	1.7 lbs. (0.79 kg)			

* "N/A" means not available on this model Vacutron® suction regulator.

** Maximum flow is affected by vacuum source and fittings. Values shown are without fittings.

3.0 ASSEMBLY AND SET-UP:

The Vacutron® suction regulator can be used with reusable or disposable suction canisters. A wide variety of suction systems can be configured, depending on the specific configuration of the suction regulator and the canister.

Generally speaking, the Vacutron® suction regulator should be connected to the vacuum source via the connection on the rear of the unit. A suction canister connects to the bottom of the Vacutron® regulator either directly or through a hose. Some typical suction systems are shown in Figures 1 and 2.

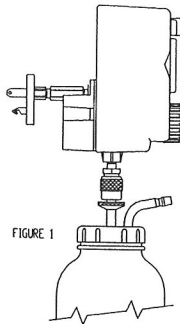


FIGURE 1

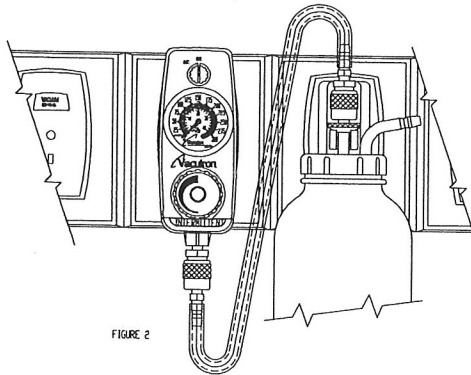


FIGURE 2

Figures 1 & 2



CAUTION

DO NOT DIRECTLY ATTACH A COLLECTION BOTTLE LARGER THAN ½ GALLON (2 LITERS) UNDER THE UNIT. THE WEIGHT OF FULL BOTTLES LARGER THAN ½ GALLON PUTS AN UNDUE LOAD ON THE WALL OUTLET.



CAUTION

IF YOU ARE NOT SURE HOW TO CONNECT OR USE YOUR VACUTRON® SUCTION REGULATOR, CONSULT THE FACTORY FOR SPECIFIC INSTRUCTIONS.



WARNING

CHECK THAT THE VACUUM LEVEL IS AT THE DESIRED SETTING PRIOR TO USING YOUR VACUTRON® SUCTION REGULATOR.

4.0 OPERATING PROCEDURE:

After assembling the suction system, a simple adjustment and test is required as follows:

4.1 Continuous Mode:

- Turn the mode switch to **REG.**
- Occlude the hose connected to the patient connection of the collection bottle.
- Wait for the vacuum reading on the gauge to rise and stabilize, then adjust the large knob to the maximum desired level.
- Remove the occlusion.

4.2 Intermittent Mode:

- Turn the mode switch to **INT.**
- Occlude the hose connected to the patient connection of the collection bottle.
- Wait for the unit to cycle ON.
- During the ON cycle adjust the vacuum level to the maximum desired level. Allow the vacuum level as indicated on the gauge to rise and stabilize prior to any adjustments.
- Remove the occlusion.

5.0 TROUBLESHOOTING GUIDE:

 CAUTION	FOLLOWING ANY REPAIR, MAINTENANCE, AND/OR PART REPLACEMENT, VERIFY THAT THE UNIT PERFORMS IN ACCORDANCE WITH SECTION 2.0.
--	--

PROBLEMS	PROBABLE CAUSE	REMEDY	SEE SECTION
1. Unit fails to draw vacuum in all modes	a. Aspirant drawn into unit b. No vacuum supply c. Loose or incorrect set-up d. Clogged filters e. Selector switch not fully engaged	Flush unit Check hospital vacuum level Set-up unit Replace filters Move switch fully to mode detent position	6.6 + 3.0 6.7 +
2. Erratic or low suction	a. Low vacuum supply b. Aspirant in unit c. Loose or faulty connection d. Worn or obstructed regulator seat e. Clogged filters f. Stuck relief valve	Check hospital vacuum level Flush unit Set-up unit Clean or replace regulator Replace filters Replace relief valve	+ 6.6 3.0 6.4 6.7 6.3
3. Erratic vacuum gauge reading	a. Low vacuum supply b. Worn or obstructed regulator seat c. Gauge mechanism damaged	Check hospital vacuum level Clean or replace regulator Replace gauge	+ 6.4 6.5
4. Vacuum gauge won't zero	a. Gauge mechanism damaged b. Pointer bent	Replace gauge Replace gauge	6.5 6.5
5. Vacuum reading too high on gauge per regulator specifications	a. Stuck relief valve b. Damaged gauge c. Damaged regulator	Replace relief valve Replace gauge Replace regulator	6.3 6.5 6.4
6. Unit will not shut off in the "OFF" position.	a. Damaged switch o-rings b. Selector switch not completely in "OFF" position	Replace o-rings Turn knob to fully "OFF" position	6.2 +
7. Source/Patient connection loose	a. Loose or damaged in handling	Remove, rewrap threads with TFE tape, and set up unit	3.0
8. Unit fails to cycle properly in INT mode	a. INT mode not selected b. No source vacuum c. Timing circuit adjusted incorrectly d. Damaged mode switch o-rings e. Clogged back plate filters f. Damaged timing assembly	Turn selector knob to INT Attach unit to hospital vacuum Adjust timing controls Replace o-rings Replace filters Consult factory for service	+ + 6.7 6.2 6.7 +

6.0 MAINTENANCE AND SERVICE:

6.1 Cover Removal and Replacement:

To remove the cover, loosen setscrew in vacuum level knob (large lower knob) and remove the knob. Remove the two screws labeled "cover screw" on the back of the unit. Turn the selector knob (small upper knob) to "OFF". Remove the cover and capture the spring and washer located on top of the vacuum regulator stem. Do not misplace these items. Holding the cover and the source connection, gently pull the cover off of the body.

Before replacing the cover, replace the spring and washer. Then to replace the cover, turn the selector knob to "OFF" and engage the two operating stem arms with the mode switch slots. Push the cover onto the body. Install the large knob. Tighten the knob setscrew and replace the two cover screws.

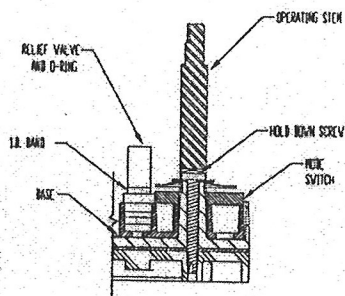


Figure 4

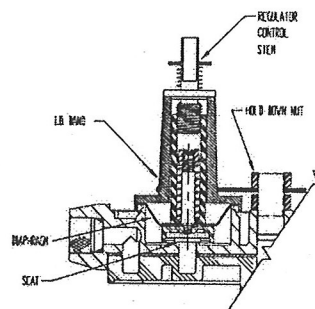


Figure 5

6.2 Mode Selector Switch:

If a leak is suspected in this area, remove the cover and the hold down screw in the center of the switch (See Figure 4). Lift the switch assembly from the center post, replace the o-rings or clean the o-rings and lubricate them with Krytox® GPL-201 lubricant. Assemble and test for timing and vacuum level function per Section 2.0.

6.3 Safety Relief Valve:

Early models have non-adjustable relief valves. These valves have the relief ball at the top of the valve. If you suspect a malfunction of this style relief valve, replace it.

Later models have adjustable relief valves. These relief valves can be adjusted by turning the screw at the top. To adjust the relief valve, turn the regulator to the maximum setting and adjust the relief valve level per Section 2.0.

See Section 8.0 for ordering information. After replacement or adjustment verify that regulated vacuum levels match Section 2.0.

6.4 Regulator Control:

The regulator controls the vacuum level when the mode switch is in the "REG" or "INT" positions. If contamination enters the regulator, remove the hold down nut (see Figure 5). Lift the regulator from its seat. Clean or replace regulator with a new assembly. See Section 8.0 for ordering information.

6.5 Vacuum Gauge:

6.5.1 Check the gauge for proper function. Replace the gauge if necessary. To remove the gauge, remove the gauge screw on the back of the unit (See Figure 10). Grip the gauge by its frame and pull the gauge straight up and away from the base (See Figure 6). **Do not pull on the faceplate.** To replace the gauge, hold the gauge by its frame. Orient the gauge to read right side up when the unit is vertical. Push the gauge column into the gauge hole. Insert the gauge screw with its plastic washer in the back of the unit and tighten the screw. Reinstall the cover according to Section 6.1.

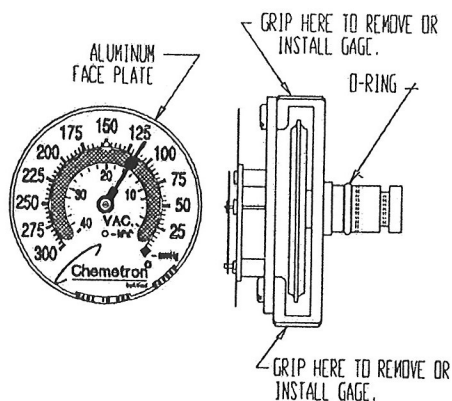


Figure 6

6.6 Flushing:



WARNING

FLUSH THE UNIT IN EACH FUNCTIONAL MODE.

- 6.6.1 Turn the mode selector switch to OFF. Attach two vacuum hoses as shown in Figure 8. The collection bottle will trap the liquid and keep it out of the hospital vacuum system. Place the patient connection of the Vacutron® regulator into a shallow pan containing isopropyl alcohol.
- 6.6.2 Turn the mode selector switch to the desired mode and turn the vacuum level knob (lower large knob) clockwise as far as it will go for maximum flow. Draw approximately 100 ml of isopropyl alcohol through the unit.
- 6.6.3 Remove the unit from the alcohol container and continue to operate the unit for at least 30 minutes with the patient connection of the regulator open to the atmosphere. This allows the internal passages to dry out.
- 6.6.4 Test the unit in accordance with Section 2.0.

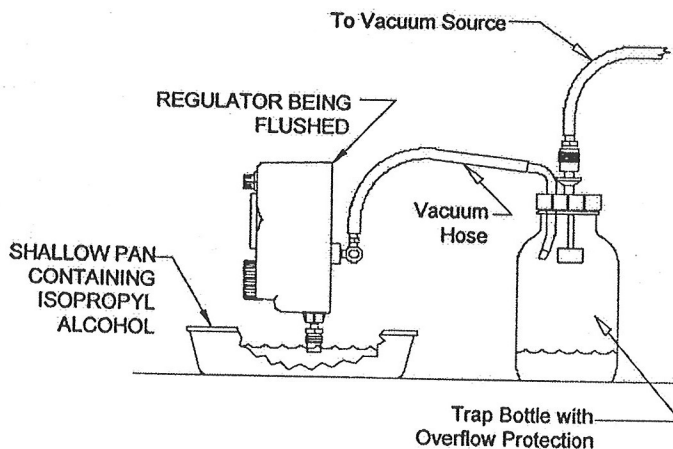


Figure 8

**CAUTION**

DO NOT ATTEMPT TO FLUSH THE UNIT EXCEPT AS DESCRIBED IN SECTION 6.6. FAILURE TO FOLLOW THIS CAUTION MAY RESULT IN SEVERE IMPAIRMENT OF THE UNIT.

6.7 Filters:

There are two small filters on the back of the unit (See Figure 10). They should be visually inspected regularly and replaced as needed.

- 6.7.1. Use a pointed object to pry the old filters out of the back of the unit. Press the new filters into the filter holes with your thumb.

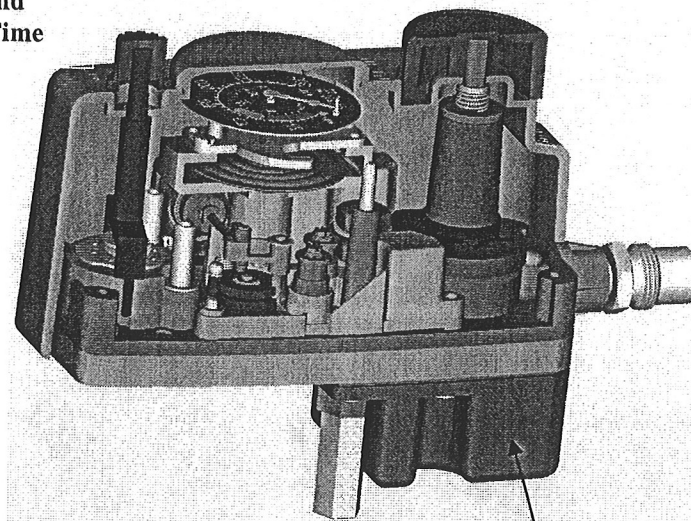
6.8 Intermittent Timing Adjustments:**WARNING**

WHEN TIMING VALVES ARE COMPLETELY TIGHTENED (CLOCKWISE), UNIT MAY NOT CYCLE.

Follow this procedure if the unit fails to cycle as specified in Section 2.0, or if the user elects to change the ON/OFF periods.

- 6.8.1. Remove the cover as per section 6.1.
- 6.8.2. Plug the patient outlet of the regulator with a rubber stopper.
- 6.8.3. Connect the unit to vacuum source of 457 ± 20 mm Hg (60 kPa, 18 in Hg).
- 6.8.4. Turn the mode selector switch to the INT position.
- 6.8.5. The timing valves are located partially under the gauge (See Figure 9). Early models have white thumb wheels for valve adjustment. Later models have a screwdriver slot.
- 6.8.6. To increase the unit's OFF time, turn the OFF Timing Control valve **CLOCKWISE** one eighth of a turn. Allow the unit to cycle a few times, then measure the modified off time. Repeat this process if required.
- 6.8.7. To decrease the OFF time follow Section 6.8.6, but turn the OFF Timing Control valve **COUNTER CLOCKWISE**.
- 6.8.8. To increase the ON time, turn the ON Timing Control valve **CLOCKWISE** one eighth of a turn. Allow the unit to cycle a few times, then measure the modified ON time. Repeat this process if required.
- 6.8.9. To decrease the ON time, follow Section 6.8.8, however, turn the ON Timing Control valve **COUNTER CLOCKWISE**.
- 6.8.10. When proper timing is achieved, replace the cover.
- 6.8.11. Check the timing of the unit one more time. If you are not able to adjust the timing in accordance with section 2.0, see section 5.0 TROUBLESHOOTING GUIDE.

**Clockwise Increases The Time And
Counterclockwise Decreases The Time**



"ON" Timing Control

"OFF" Timing Control

Timing Module

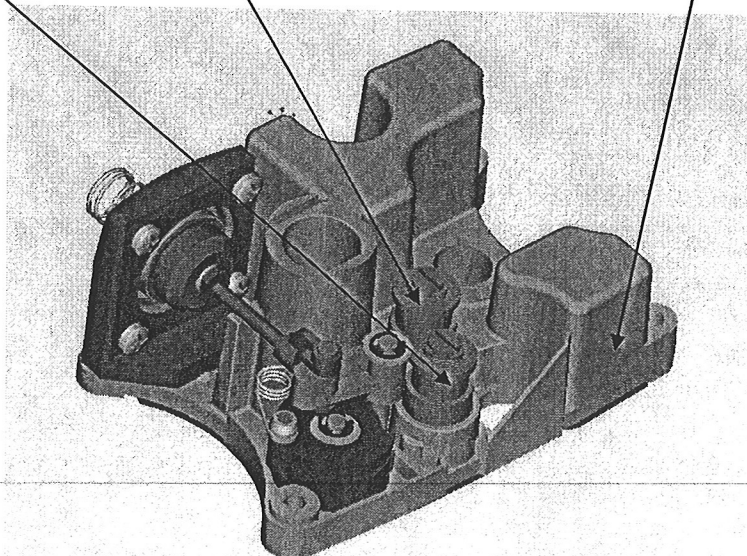


Figure 9

7.0 VACUTRON SUCTION REGULATOR DRAWINGS:

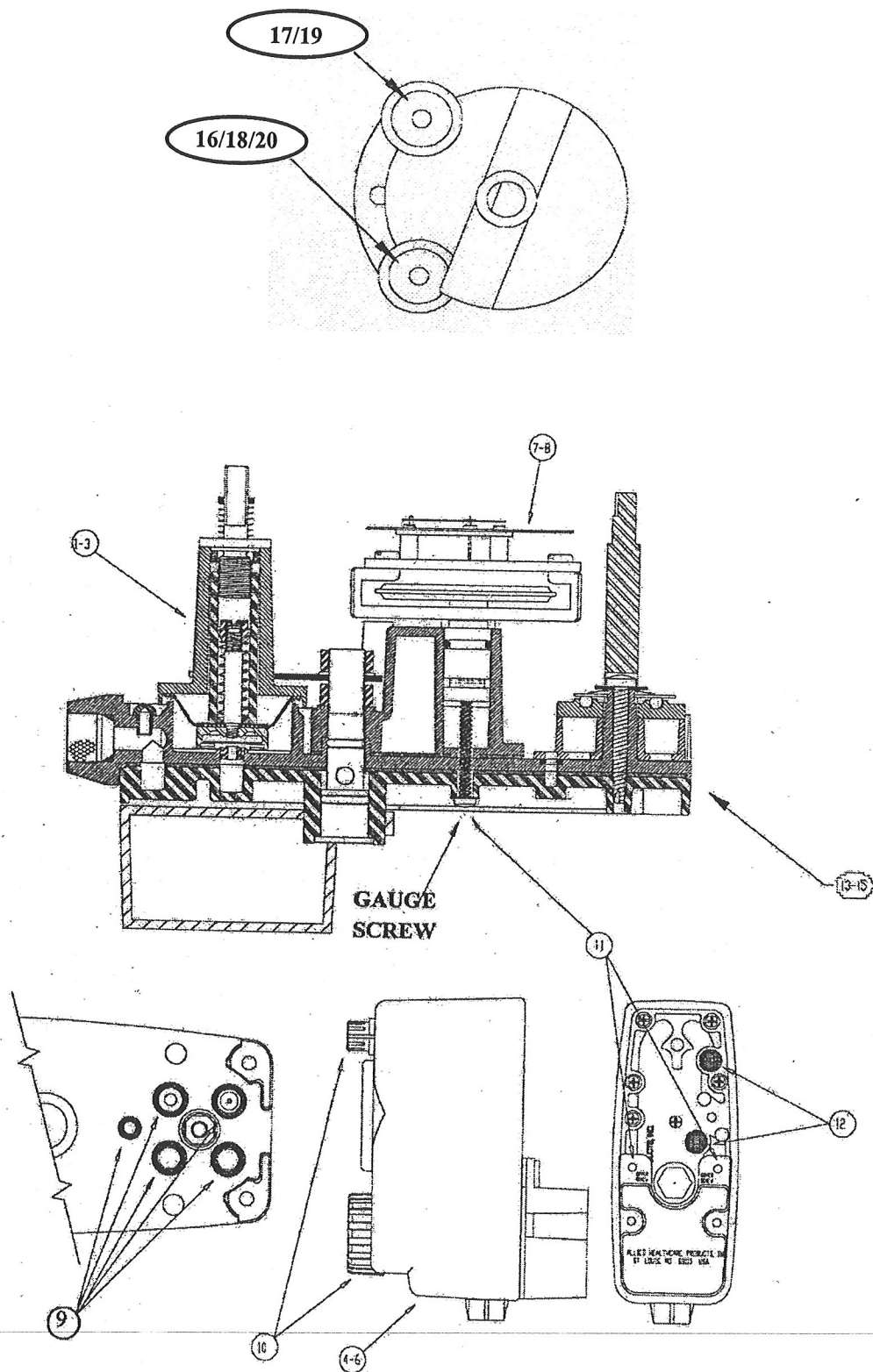


Figure 10

NOTE: SEE SECTION 8.0 FOR ITEM IDENTIFICATION AND ORDERING INFORMATION.

8.0 REPLACEMENT PARTS LIST:

Item Number	Description	Qty Per Order	Catalog Number
1	Red-Banded Pre-Tested Regulator Assembly , Cont./Intermittent, Cont. & Surgical	1	22-95-2001
2	Blue-Banded Pre-Tested Regulator Assembly , Pediatric Cont./Intermittent	1	22-95-2022
3	Cover Assembly , Cont. / Intermittent	1	22-95-2011
4	Cover Assembly , Intermittent	1	22-95-2016
5	Cover Assembly , Pediatric	1	22-95-2032
6	Gauge, USA, With O-Ring, 0 To 300 mm Hg	1	22-95-2003
6	Gauge, ISO, With O-Ring, 0 To 300 mm Hg	1	22-95-2403
7	Gauge, USA, With O-Ring, 0 To 150 mm Hg	1	22-95-2023
7	Gauge, ISO, With O-Ring, 0 To 150 mm Hg	1	22-95-2423
8	O-Rings For Mode Switch (For Ten Units)	50	22-95-2002
9	Knob Kit , Mode Switch (4) And Regulator Knob (4)	4	22-95-2004
10	Cover Screw (6) And Gauge Screw (3) For 3 Units	6 & 3	22-95-2017
11	Filter (6) For Three Units	6	22-95-0010
12	Continuous-Intermittent Back/Base Assembly	1	22-95-2026
13	Intermittent Back/Base Assembly	1	22-95-2030
14	Pediatric Cont./Inter Back/Base Assembly	1	22-95-2028
15	Black-Banded Intermittent Relief Valve	1	22-95-0016
16	Double Blue-Banded Pediatric Continuous Relief Valve	1	22-95-0039
17	Single Blue-Banded Pediatric Intermittent Relief Valve	1	22-95-0040
18	Red-Blue-Banded Continuous, Combo & Surgical	1	22-95-0030

CATALOG NUMBERS OF ISO AND USA VACUTRON® SUCTION REGULATOR MODELS
WITH VARIOUS FITTINGS (AS PICTURED)

SOURCE CONNECTION												
VACUTRON® MODEL	PATIENT CONNECTION											
CONTINUOUS-INTERMITTENT	DISS MALE	22-15-1102	22-15-1108	22-15-1113	22-15-1107	22-15-1100	22-15-1106	22-15-1105	22-15-1104	22-15-1111	N/A	N/A
	BARBED STEM	22-15-1202	22-15-1208	22-15-1213	22-15-1207	22-15-1200	22-15-1206	22-15-1205	22-15-1204	22-15-1211	N/A	N/A
	V.A. MALE	22-15-1302	22-15-1308	22-15-1313	22-15-1307	22-15-1300	22-15-1306	22-15-1305	22-15-1304	22-15-1311	N/A	N/A
	45° DISS MALE	22-15-1402	22-15-1408	22-15-1413	22-15-1407	22-15-1400	22-15-1406	22-15-1405	22-15-1404	22-15-1411	N/A	N/A
	BACTERIA FILTER	22-15-1502	22-15-1508	22-15-1513	22-15-1507	22-15-1500	22-15-1506	22-15-1505	22-15-1504	22-15-1511	N/A	N/A
INTERMITTENT	DISS MALE	22-16-1102	22-16-1108	22-16-1113	22-16-1107	22-16-1100	22-16-1106	22-16-1105	22-16-1104	22-16-1111	N/A	N/A
	BARBED STEM	22-16-1202	22-16-1208	22-16-1213	22-16-1207	22-16-1200	22-16-1206	22-16-1205	22-16-1204	22-16-1211	N/A	N/A
	V.A. MALE	22-16-1302	22-16-1308	22-16-1313	22-16-1307	22-16-1300	22-16-1306	22-16-1305	22-16-1304	22-16-1311	N/A	N/A
	45° DISS MALE	22-16-1402	22-16-1408	22-16-1413	22-16-1407	22-16-1400	22-16-1406	22-16-1405	22-16-1404	22-16-1411	N/A	N/A
	BACTERIA FILTER	22-16-1502	22-16-1508	22-16-1513	22-16-1507	22-16-1500	22-16-1506	22-16-1505	22-16-1504	22-16-1511	N/A	N/A
PEDIATRIC CONTINUOUS-INTERMITTENT	DISS MALE	22-17-1102	22-17-1108	22-17-1113	22-17-1107	22-17-1100	22-17-1106	22-17-1105	22-17-1104	22-17-1111	N/A	N/A
	BARBED STEM	22-17-1202	22-17-1208	22-17-1213	22-17-1207	22-17-1200	22-17-1206	22-17-1205	22-17-1204	22-17-1211	N/A	N/A
	V.A. MALE	22-17-1302	22-17-1308	22-17-1313	22-17-1307	22-17-1300	22-17-1306	22-17-1305	22-17-1304	22-17-1311	N/A	N/A
	45° DISS MALE	22-17-1402	22-17-1408	22-17-1413	22-17-1407	22-17-1400	22-17-1406	22-17-1405	22-17-1404	22-17-1411	N/A	N/A
	BACTERIA FILTER	22-17-1502	22-17-1508	22-17-1513	22-17-1507	22-17-1500	22-17-1506	22-17-1505	22-17-1504	22-17-1511	N/A	N/A
ISO CONTINUOUS-INTERMITTENT	DISS MALE	22-25-1102	22-25-1108	22-25-1113	22-25-1107	22-25-1100	22-25-1106	22-25-1105	22-25-1104	22-25-1111	22-25-1116	22-25-1114
	BARBED STEM	22-25-1202	22-25-1208	22-25-1213	22-25-1207	22-25-1200	22-25-1206	22-25-1205	22-25-1204	22-25-1211	22-25-1216	22-25-1214
	V.A. MALE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	45° DISS MALE	22-25-1402	22-25-1408	22-25-1413	22-25-1407	22-25-1400	22-25-1406	22-25-1405	22-25-1404	22-25-1411	22-25-1416	22-25-1414
	BACTERIA FILTER	22-25-1502	22-25-1508	22-25-1513	22-25-1507	22-25-1500	22-25-1506	22-25-1505	22-25-1504	22-25-1511	22-25-1516	22-25-1514
ISO INTERMITTENT	DISS MALE	22-26-1102	22-26-1108	22-26-1113	22-26-1107	22-26-1100	22-26-1106	22-26-1105	22-26-1104	22-26-1111	22-26-1116	22-26-1114
	BARBED STEM	22-26-1202	22-26-1208	22-26-1213	22-26-1207	22-26-1200	22-26-1206	22-26-1205	22-26-1204	22-26-1211	22-26-1216	22-26-1214
	V.A. MALE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	45° DISS MALE	22-26-1402	22-26-1408	22-26-1413	22-26-1407	22-26-1400	22-26-1406	22-26-1405	22-26-1404	22-26-1411	22-26-1416	22-26-1414
	BACTERIA FILTER	22-26-1502	22-26-1508	22-26-1513	22-26-1507	22-26-1500	22-26-1506	22-26-1505	22-26-1504	22-26-1511	22-26-1516	22-26-1514
ISO PEDIATRIC CONTINUOUS-INTERMITTENT	DISS MALE	22-27-1102	22-27-1108	22-27-1113	22-27-1107	22-27-1100	22-27-1106	22-27-1105	22-27-1104	22-27-1111	22-27-1116	22-27-1114
	BARBED STEM	22-27-1202	22-27-1208	22-27-1213	22-27-1207	22-27-1200	22-27-1206	22-27-1205	22-27-1204	22-27-1211	22-27-1216	22-27-1214
	V.A. MALE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	45° DISS MALE	22-27-1402	22-27-1408	22-27-1413	22-27-1407	22-27-1400	22-27-1406	22-27-1405	22-27-1404	22-27-1411	22-27-1416	22-27-1414
	BACTERIA FILTER	22-27-1502	22-27-1508	22-27-1513	22-27-1507	22-27-1500	22-27-1506	22-27-1505	22-27-1504	22-27-1511	22-27-1516	22-27-1514

PATIENT CONNECTIONS:



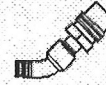
D.I.S.S. MALE
12-80-3201



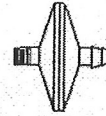
HOSE BARB
22-95-1150



V.A. MALE
22-94-0025



45° D.I.S.S.
MALE
12-90-0005
& 12-80-3201



BACTERIA
FILTER
22-95-1100

10.0 WARRANTY:

Limited Warranty: Allied warrants for a period of two years from date of shipment that the products in this manual are free from defects in material and workmanship. Allied makes no warranty with respect to products manufactured by others and furnished hereunder, provided, however, Allied shall extend to Buyer any warranties, which it received, from such vendors. Items for repair under warranty will be covered for parts by Allied, when returned prepaid to Allied's Repair Department. Labor and travel will be charged to the Buyer for repairs made outside Allied's Repair Department.

In the event of breach of any warranty hereunder, Allied's sole and exclusive liability shall be its option either to repair or replace F.O.B. destination any defective products, or to accept return of such product and refund the purchase price; in either case provided that written notice of such defect is given to Allied within warranty period of product purchased, that the product is found by Allied to have been defective at the time of such shipment, that the product has been installed and/or operated in accordance with Allied's instructions, that no repairs, alterations or replacements have been made by others without Allied's written approval, and that the Buyer notifies Allied in writing within forty-five (45) days after the defect becomes apparent and promptly furnishes full particulars in connection therewith, and provided further that in no event shall the aggregate liability of Allied in connection with breach of any warranty or warranties exceed the purchase price paid for the product purchased hereunder. Allied may, at its option, require the return of any product, transportation and duties prepaid, to establish any claim of defect made by Buyer. Allied will not accept and shall have no responsibility for products returned without its prior written consent and Allied will not assume any expense or liability for repairs to products. In the event Allied elects to replace a defective product, costs of installation, labor, service and all other costs to replace the product shall be the responsibility of the Buyer.

EXCEPT AS EXPRESSLY STATED HEREIN, ALLIED MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AND DOES NOT WARRANT THAT THE PRODUCTS ARE MERCHANTABLE OR FIT FOR ANY PARTICULAR PURPOSE.

Allied shall not, except as set forth above, be otherwise liable to Buyer or to any person who shall purchase from Buyer, or use, any product supplied hereunder for damages of any kind, including, but not limited to direct, indirect, special or consequential damages or loss of production or loss of profits resulting from any cause whatsoever, including, but not limited to, any delay, act, error or omission of Allied.

Every claim from any cause shall be deemed waived by Buyer unless made, in writing, within twenty-four (24) months of the receipt by Buyer of the goods to which such claim relates. No legal proceedings will be brought for any breach of this contract more than one year after the occurrence of the cause of action.

If further technical assistance is needed, please contact our Service Center at this address:

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314-771-2400

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